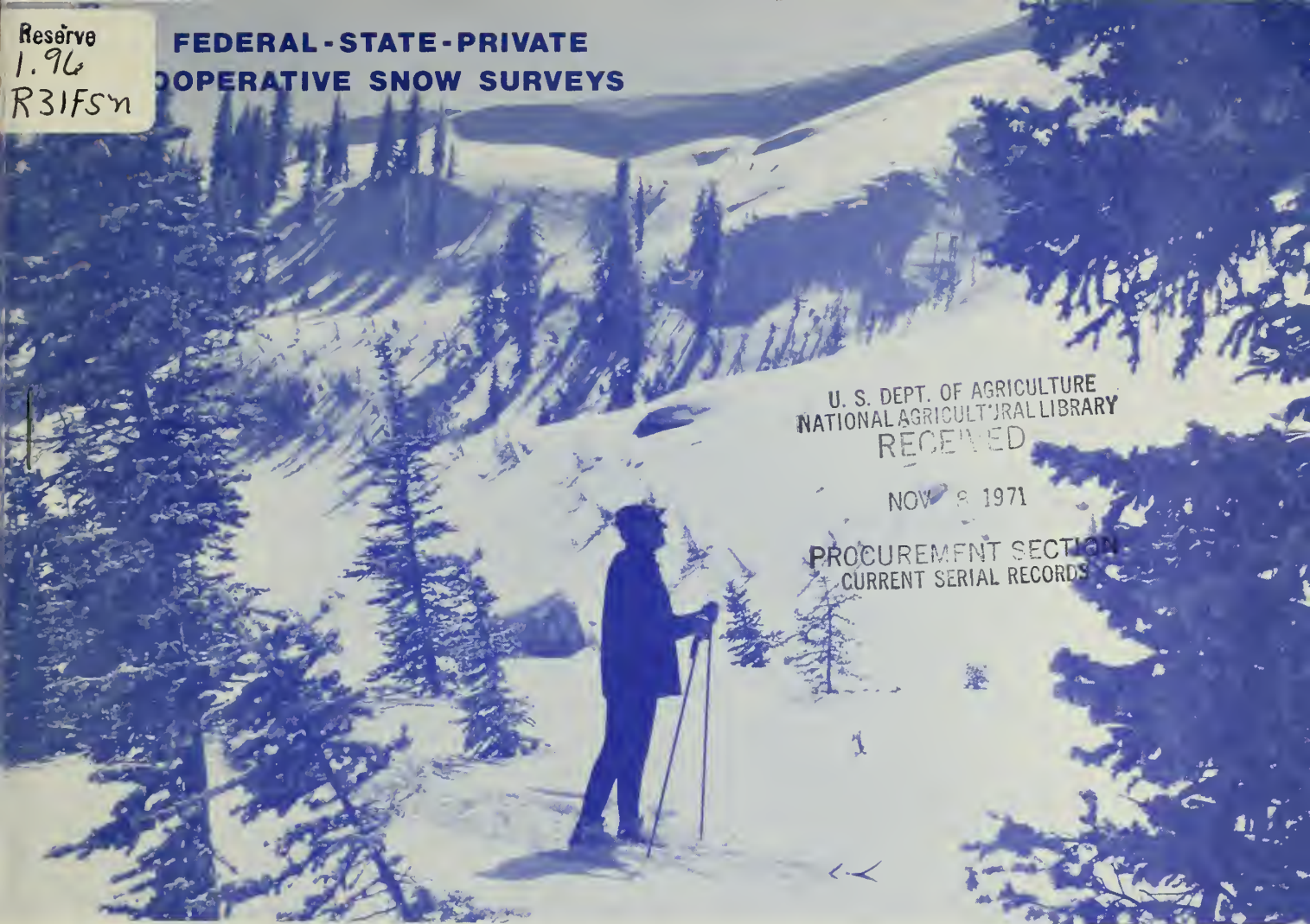


Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.



FALL WATER SUPPLY SUMMARY FOR NEVADA

Prepared by
U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Collaborating with
NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed on the last page of this report.

AS OF
OCT. 1, 1971

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR NEVADA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.



Released by

CHARLES A. KRALL

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

In Cooperation with

ELMO J. DE RICCO

DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA



Report prepared by

DONALD W. McANDREW, Snow Survey Supervisor

and

JOHN D. RODA, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
P. O. BOX 4850
RENO, NEVADA

FALL SUMMARY - OCTOBER 1, 1971

NEVADA'S 1971 SURFACE WATER SUPPLY WAS FAVORABLE TO IRRIGATORS FOR THE THIRD CONSECUTIVE YEAR. MOST IRRIGATORS SERVED BY ONE OF NEVADA'S MAJOR RIVER SYSTEMS RECEIVED NORMAL TO ABUNDANT WATER SUPPLIES. SMALLER TRIBUTARY STREAMS ALSO PRODUCED GOOD SUPPLIES, ESPECIALLY DURING THE SPRING AND EARLY SUMMER. STREAMFLOW ON NEVADA'S MAJOR STREAMS VARIED FROM 110% TO 310% OF NORMAL ACROSS THE STATE THIS PAST SEASON. DUE TO ABOVE NORMAL STREAMFLOWS, RESERVOIR STORAGE REMAINS EXCELLENT AT THIS TIME.

Streamflow volumes varied from 10% to 50% above normal on the rivers originating in the Sierra Nevada. Although these streams produced greater than average volumes, their daily peak flows were very near average. Streamflow predictions issued last April were very near actual flows on the Truckee, Carson and Walker drainages.

Humboldt Basin streams had excessive flows this past year. The Humboldt River flowed in excess of previous records for the June-July period. Main tributary streams flowed from 130% to 230 % of average. The Owyhee River also flowed in excess of 200 % of average.

Fall streamflow remains above average, and most ground water levels are above normal at this time. Soil moisture measurements indicate the mountain soil mantle is slightly wetter than average. All of these factors indicate that the watersheds are in good condition, with no water deficits at this time.

Reservoir carryover storage is excellent. Combined storage in all major reservoirs is more than 140% of average at this date. Larger reservoirs, namely, Wild Horse, Rye Patch, Tahoe and Lahontan, all contain excellent carryover storage and will provide water users some assurance of a good supply next season.



APRIL - JULY 1971
NEVADA STREAMFLOW FORECASTS
and
OBSERVED STREAMFLOW

The following table contains April-July forecasts made during the past winter. Observed streamflow quantities are provisional and were furnished by the U. S. Geological Survey and other agencies.

April-July Streamflow, Thousand Acre-Feet							
FORECAST STREAMS	Forecast				Observed 1971	Average 1953-67	Observed 1971 as % of 15 yr. av.
	Feb.	Mar.	Apr.	May			
	1 1971	1 1971	1 1971	1 1971			
Little Truckee above Boca, Ca. ¹		112	121	112	146	81	180
Truckee at Farad, Ca. ¹		300	375	374	380	258	148
Lake Tahoe ³		1.55	1.71	1.71	2.06	1.39	148
E. Carson nr Gardnerville, Nev.		181	196	197	204	175	116
E. Carson nr Gardnerville, Nev. (Date of 200 c.f.s. flow)		7/17	7/24	7/24	8/4	7/23	
W. Carson at Woodfords, Ca.		55	60	60	63	51	123
Carson nr Carson City, Nev.		166	190	187	216	166	130
Carson nr Ft. Churchill, Nev.		157	170	157	195	150	130
E. Walker nr Bridgeport, Ca. ²		54	57	59	76	60	126
W. Walker below Little Walker nr Coleville, Ca.	178	143	150	150	150	143	104
Lamoille Creek nr Lamoille, Nev.		26	28	29	39	25	134
S. Fork Humboldt nr Elko, Nev.		62	68	65	135	58	232
Marys River above Hot Springs, Nev.		32	35	32	62	28	221
N. Fork Humboldt at Devils Gate, Nev.		25	28	29	57	26	219
Humboldt at Palisade, Nev.	175	165	170	162	462	154	300
Humboldt at Comus, Nev.		115	119	115	361	110	328
Martin Creek nr Paradise, Nev.		14	16	15	23	14	164
Owyhee nr Gold Creek, Nev. ¹	21	20	25	20	36	16	225
Owyhee nr Owyhee, Nev.	85	73	91	72	124	60	206

1 Corrected for storage above station.

2 April-August flow, corrected for storage.

3 Maximum rise in feet from April 1, assuming gates closed.

NEVADA
STATUS of RESERVOIR STORAGE

October 1, 1971

BASIN and Stream	RESERVOIR	USABLE CAPACITY (1000 AF)	USABLE STORAGE - 1000 ACRE-FEET			
			1971	1970	1969	15 YEAR AVERAGE 1953-67
Owyhee	Wild Horse	72	55	34	8	12
Lower Humboldt	Rye Patch	179	161	161	170	58
Colorado	Mohave	1,810	1,422	1,376	1,436	1,413
Colorado	Mead	27,217	16,890	16,769	16,135	16,905
Tahoe	Tahoe	732	569	536	580	436
Truckee	Boca	41	32	27	22	10
Truckee	Prosser	29*	25	16	20	Storage began 1/30/63
Truckee	Stampede	220	150	88	-	Storage began 8/1/69
Carson	Lahontan	286	180	144	165	109
West Walker	Topaz	59	21	19	32	17
East Walker	Bridgeport	42	20	15	22	14

* Flood control use allocation of 20,000 acre-feet between November 1 and April 10.

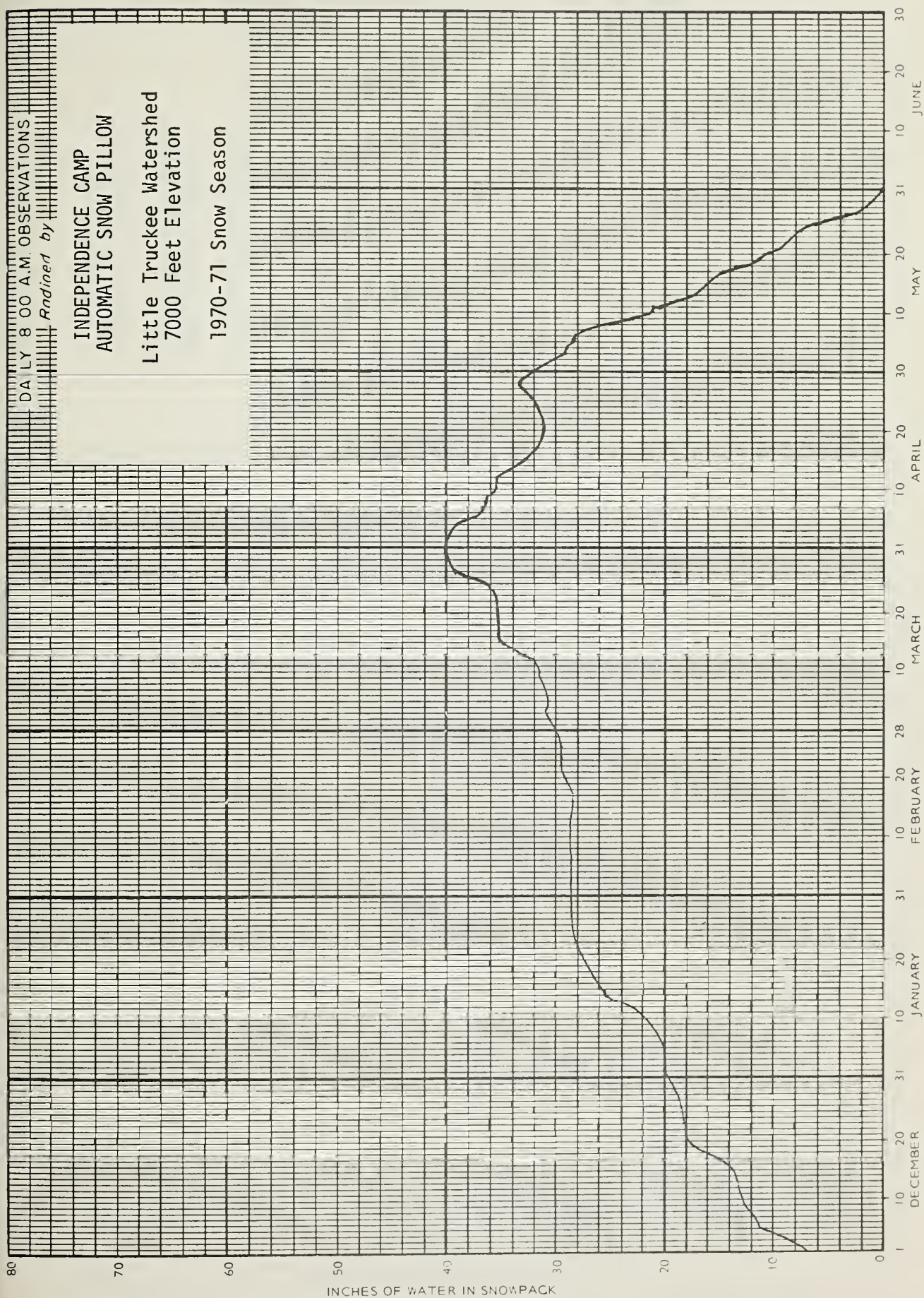
NEVADA

SOIL MOISTURE

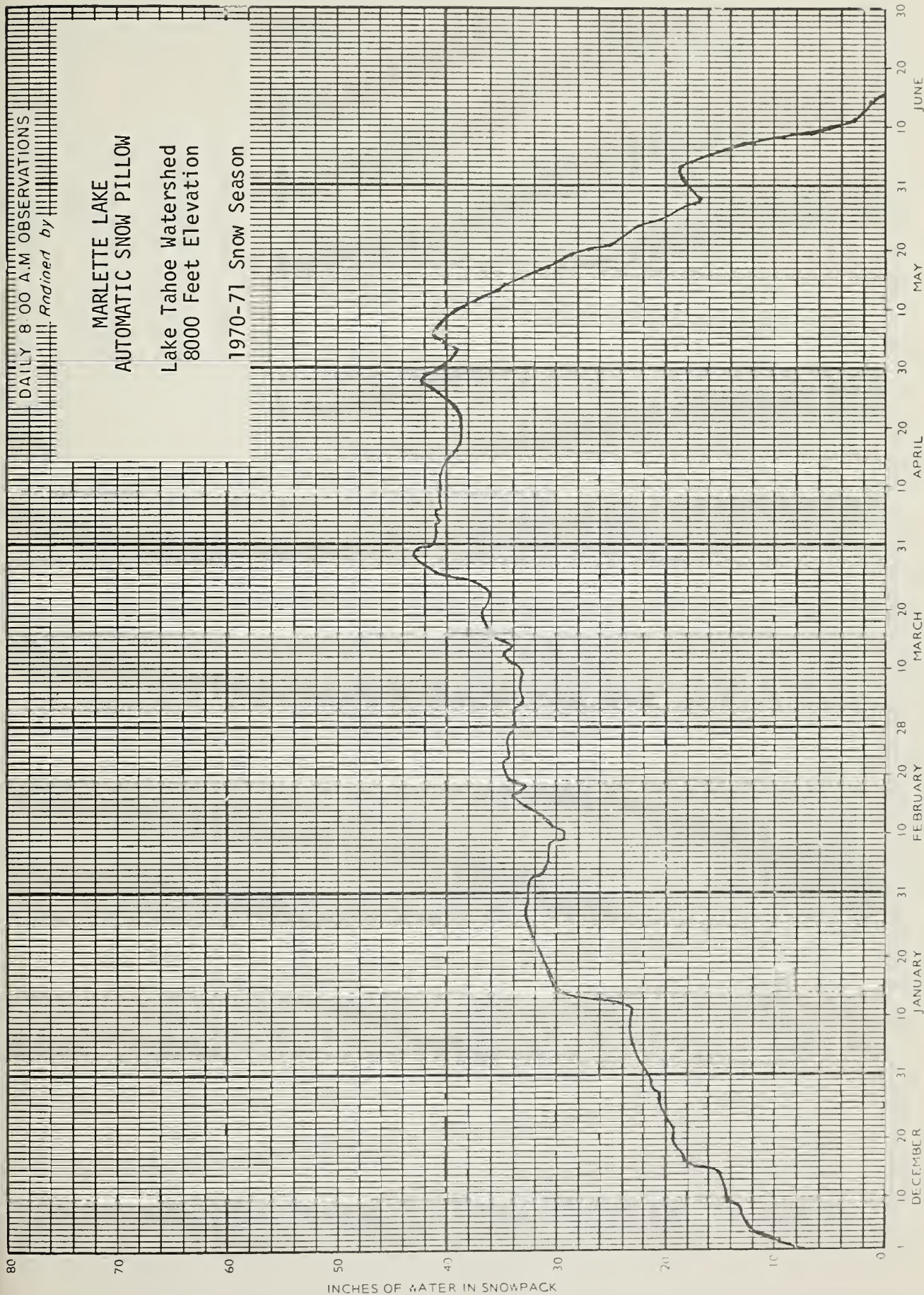
October 1, 1971

STATION	Elevation	PROFILE (Inches)		Date	SOIL MOISTURE (Inches)		
		Depth	Capacity		This Year	Last Year	2 Yrs Ago
<u>EAST SLOPE SIERRA</u>							
Indepence Camp	7000	34	6.10	9/21	1.9	1.8	1.8
Hagans Meadow	8000	36	3.65	9/16	1.8	1.3	1.7
Marlette Lake	8000	50	3.70	9/16	1.6	1.5	0.4
Truckee #2	6400	18	3.65	9/16	1.0	1.1	0.6
Ward Creek	7000	49	5.80	9/16	1.9	1.7	0.7
Sonora Pass	8800	48	8.30	9/15	3.1	2.8	2.8
Virginia Lake	9200	40	5.00	9/15	1.7	1.4	0.8
<u>HUMBOLDT BASIN</u>							
Rodeo Flat	6800	42	11.00	9/13	5.1	5.9	8.3
<u>OWYHEE BASIN</u>							
Big Bend	6700	48	16.70	9/18	11.2	9.2	13.4
Jack Creek, Lower	6800	48	8.70	9/13	5.1	6.4	6.4
Taylor Canyon	6200	48	15.00	9/13	7.8	8.0	9.5

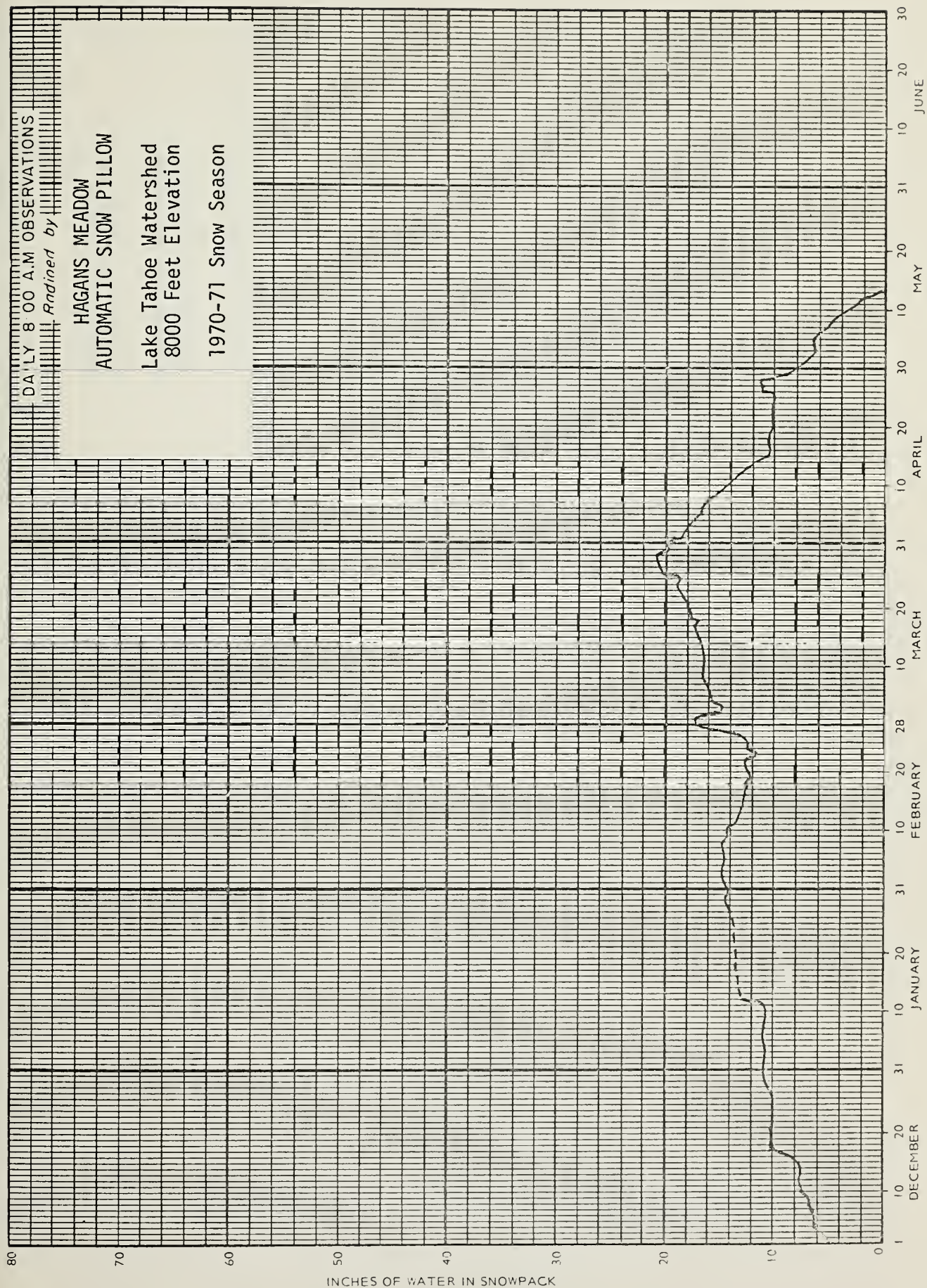
U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



INCHES OF WATER IN SNOWPACK

U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION

DAILY 8 00 A.M. OBSERVATIONS

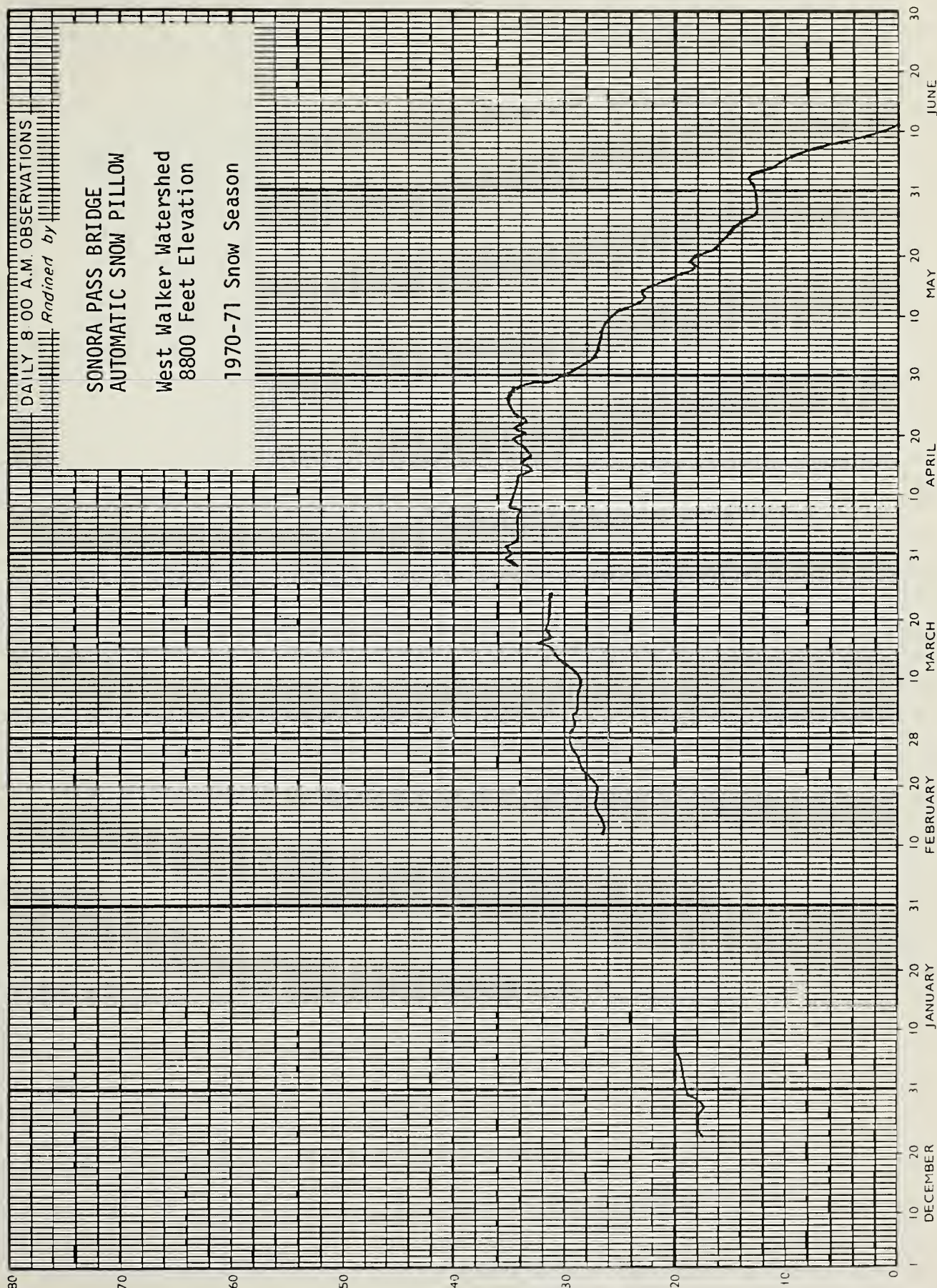
Revised by

SONORA PASS BRIDGE
AUTOMATIC SNOW PILLOW

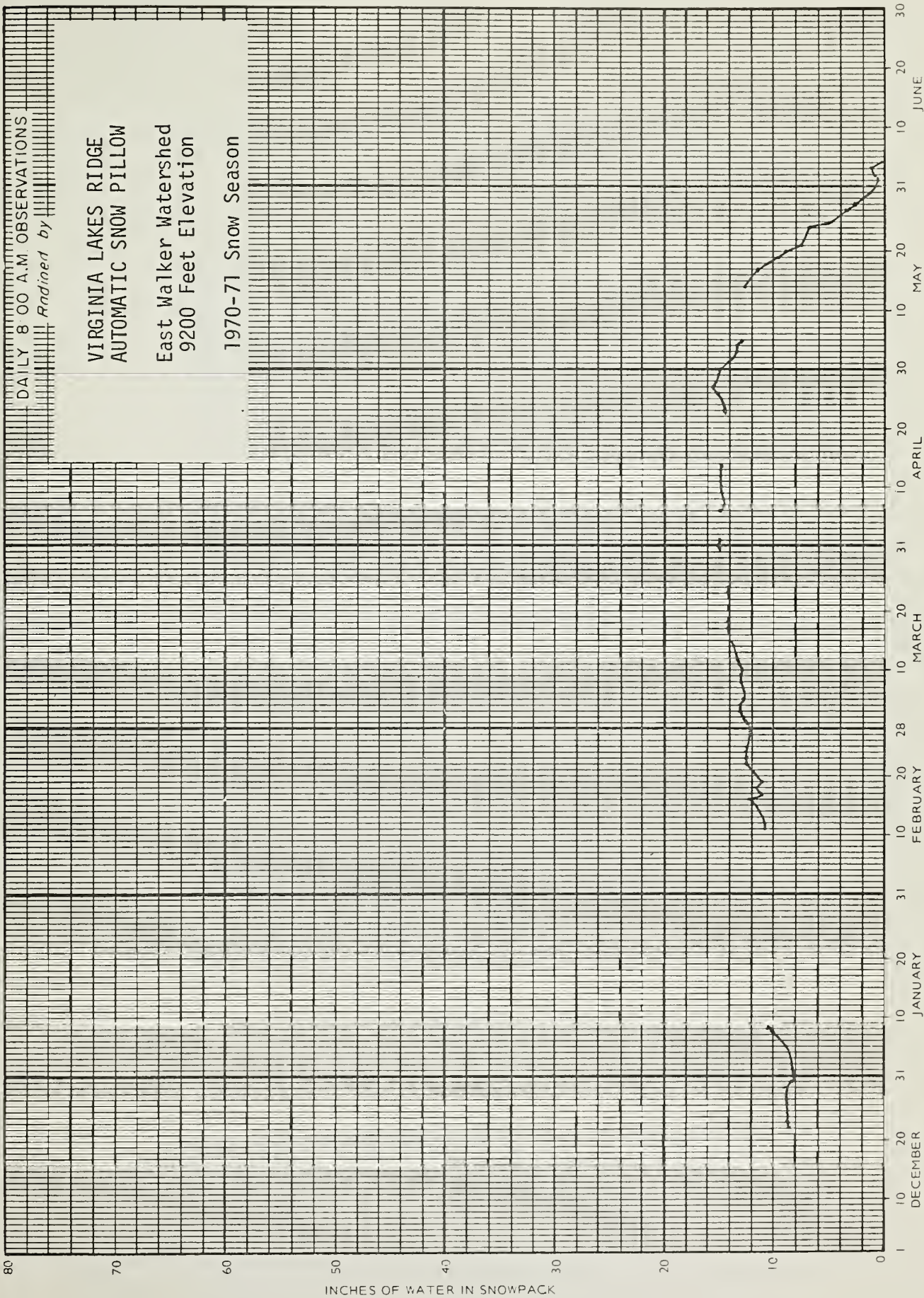
West Walker Watershed
8800 Feet Elevation

1970-71 Snow Season

INCHES OF WATER IN SNOWPACK



U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- U. S. District Court - Federal Water Master
- Weather Bureau

STATE

- California Cooperative Snow Surveys
- California Department of Parks and Recreation
- California Department of Water Resources
- Colorado River Commission of Nevada
- Idaho Cooperative Snow Surveys
- Nevada Association of Soil Conservation Districts
- Nevada Department of Conservation & Natural Resources:
 - Division of Water Resources
 - Nevada State Forester
- Oregon Cooperative Snow Surveys
- Utah Cooperative Snow Surveys
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas and Electric Company
- Pershing County Water Conservancy District
- Sierra Pacific Power Company
- Truckee-Carson Irrigation District
- Walker River Irrigation District
- Washoe County Water Conservancy District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P.O. Box 4850

RENO, NEVADA 89505

OFFICIAL BUSINESS



POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*